ENTOMOLOGICAL NEWS

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION,

ACADEMY NATURAL SCIENCES, PHILADELPHIA.

VOL. I. APRIL, 1890. No. 4.

CONTENTS:

The Inhabitants of a Hickory Nut Hull.

BY JOHN HAMILTON, M. D.

While collecting Hickory-nuts last October the hulls or husks of several of the species were observed to be inhabited by some lepidopterous larvæ, and to ascertain their parentage, some of these hulls were thrown into a capped glass-jar and kept in my office.

January 8th, two ♂ specimens of a beautiful hymenopterous parasite appeared belonging, according to Mr. Cresson, to the genus *Pimpla*. On cutting open one of the hulls a nearly matured ♀ nymph was found in its host's cell, of which all that remained was the horny head; the long ovipositor ascended over the tip of the abdomen and extended along the centre of the back reaching the labrum. This example lay naked in the cell formed by the larva of the moth, having made no cocoon.

February 9th, two moths appeared, and another small, but beautiful parasite, which Mr. Cresson determined to be *Phanerotoma* (*Sigalphus*) *tibialis* Hald. (Proc. Acad. Nat. Sci. Phila. 2d s., iv, 203) the larva of which forms a thick silky cocoon in the

cell of its devoured host, though three or four crawled out and spun up against the glass. This species has heretofore been known to prey on the larvæ of another Hickory Tortricid which feeds on the leaves, *Acrobasis caryæ* Grote, Papilio I, 13 and 14. It is much smaller than the *Pimpla*, which may be accounted for by the fact that the larva of the latter wastes none of its substance in forming a cocoon, and the perfect insect appears much larger than its host.

The moth was courteously determined by Prof. C. H. Fernald, and proves to be a Tortricid long known to microlepidopterists as an inhabitant of Hickory-nut hulls. It was first described by Fitch (N. Y. Agric. Rept. xvi, 459, 1856) under the name *Ephippophora caryana*, now *Grapholitha;* and again by Shimer (Trans. Am. Ent. Soc. II, 394) as *Grapholitha caryæ*. The larva when full grown excavates a cell in the hull several times larger than itself, which it lines with a silky gum. It is then about .25 inch. in length, white, except a luteous head, and 16-footed. The pupa is pale clay colored, .20 inch. long, and has on the posterior margin of each segment a transverse row of erect teeth which enables it to move about its large cell with great ease. The anterior wing cover of the moth is dusky black, with a sprinkling of scales—golden, purple and blue, and a silvery blotch near the tip. Expanse .50 to .60 inch.

The nuts attacked in their earlier stages usually abort and fall, or fail to produce a perfect kernel. In furnishing these beautiful parasites nature has been very kind to the country and village boys, as without this protection Hickory-nut hunting would not often be one of their chief autumnal pleasures.

A full grown larva, while under observation, stepped from the table, but like its leaf-rolling kindred, it let itself down very gently by a suddenly improvised thread. This was rather a surprise, as it is not known to leave the interior of the hull voluntarily till it comes forth with wings. Some evolutionists may interpret this as proof of an ancestry that had business in the outside world.

In compliance with my request, Mr. E. T. Cresson has kindly furnished a description of the *Pimpla*.

[**Pimpla grapholithæ** n. sp.—♀. Head rufopiceous, smooth and shining; vertex, face and mandibles, except tips, fusco-testaceous; palpi and scape beneath white, remainder of antennæ black; thorax smooth and polished, impunctate, fulvous or honey yellow; metathorax piceous; tegulæ white;

wings hyaline, iridescent, nervures brown-black, upper nervure of third discoidal cell bent downwards at about the middle, so that the cell is narrowed at base; legs, including coxæ, white; spot on coxæ and trochanters within, broad stripe on femora within, tips of four posterior tibiæ and of their tarsal joints, black; abdomen brown-black, rather closely punctured, segments 2–5 above with a rounded elevation on each side about the middle; segments 1 and 3–5 quadrate; segment 2 rather longer than broad; ovipositor as long as the body, honey-yellow, sheaths black. Length .40 inch.

♂.—More slender than the ♀; head, metathorax and abdomen jet-black; face with a fine whitish pubescence; all the abdominal segments longer than broad and clothed with a short, fine, whitish sericeous pubescence; basal segment above with a longitudinal central groove. Length .37—.40 inch.

Described from one female in collection Amer. Ent. Soc. from Missouri, and two males reared by Dr. Hamilton, as stated above. —E. T. C.]

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NOTES ON LEPIDOPTERA.

BY HENRY SKINNER, M. D.

A SPHINX NOT KNOWN IN AMERICAN COLLECTIONS.—*Protoparce dalica* was described by Kirby in Trans. Ent. Soc. London (1877), p. 243. Locality Canada. There is a good figure of it on page 70 in the "Aid to the Identifications of Insects," Vol. 1, by C. O. Waterhouse. Dr. H. Strecker thinks this is an aberrant form of *P. rustica*, and such it will likely prove to be.

ARCTIA PALLIDA Pack.—Prof. J. B. Smith, in "Can. Ent." February, 1890, p. 35, says "the type of *pallida* is in the collection of the Am. Ent. Soc., where I have several times seen it. It is certainly not an *Arctia*, but perhaps nearer *Seirarctia*." The specimen in the collection of the Society was marked type on the authority of Mr. Aaron. He showed it to Prof. Packard, when he was here on a visit, who said he thought it might be his type. The specimen has a Pennsylvania locality label on it, and also Dr. Lewis' name. In the original description of the species Prof. Packard says, "I am indebted to Mr. Calverly for the loan of this fine, and apparently very rare species." Locality given is New York. The specimen in question, in my opinion, is an aberration of *Hyphantria cunea* of Drury, but it also answers to the description of *A. pallida*. Is *pallida* known to exist? has any one the species? Is our specimen the type?